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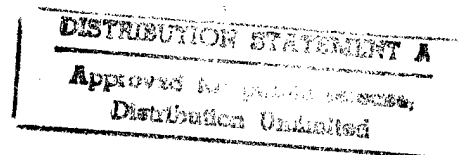
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25 April 1983

China Report

SCIENCE AND TECHNOLOGY

No. 195



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NATIONAL DEVELOPMENTS

ANHUI'S YANG HAIBO ADDRESSES SCIENTISTS

OW070954 Hefei Anhui Provincial Service in Mandarin 1100 GMT 5 Apr 83

[Excerpts] At the 2d session of the 3d committee of the Anhui Provincial Scientific and Technical Association, Yang Haibo, deputy secretary [fu shu ji 0479 2579 6068] of the Anhui Provincial CPC Committee pointed out, on the afternoon of 4 April, that the association must further mobilize and organize the masses of scientists and technicians throughout the province to make even greater contributions to creating a new situation for the development of socialist modernization in Anhui.

Attending yesterday's session were Secretary [shu ji 2579 6068] Huang Huang and deputy secretaries Wang Yuzhao, Yuan Zhen, Wang Guangyu, Shi Junjie, (Tang Wei), Liu Guangcai, Su Hua and Lu Rongjing of the provincial CPC committee.

In his speech, Comrade Yang Haibo said: Under the guidance of the principle laid down by the 12th National Party Congress, the various scientific organizations, societies and research institutes under their administration throughout the province, have extensively carried out academic activities, propagated scientific knowledge and played their role well as advisors to the party and government organs in the field of science and technology.

Comrade Yang Haibo said: As an important mass organization, the provincial scientific and technical association must help party organizations carry out their work in dealing with scientists and technicians, whip up their enthusiasm, popularize scientific and technical achievements, continue to develop academic activities and make contributions to promoting socialist economic construction. It is for this purpose that the provincial scientific and technical association must unite with, mobilize and organize the masses of scientists and technicians to actively engage in the development of socialist modernization. Efforts must be made to implement the principle of attaching importance to basic sciences while vigorously developing applied sciences. It is necessary to train more competent people in an organized manner and create conditions to help scientists and technicians study Marxism-Leninism-Mao Zedong Thought, understand the principles and policies laid down by the party and the government, and study social and economic developments, and to provide scientists and technicians with an opportunity to serve society and the people, by offering consultative services in the field of science and technology.

In his speech, Comrade Yang Haibo called on all party organizations and people's governments to support the work of the scientific and technical association and help it overcome difficulties.

NATIONAL DEVELOPMENTS

'RENMIN RIBAO' PAYS TRIBUTE TO FIELD SCIENTISTS

HK080723 Beijing RENMIN RIBAO in Chinese 7 Apr 83 p 3

[Commentator's article: "Saluting the Field Scientists"]

[Text] The Chinese Academy of Sciences has held a fieldwork conference and commended progressive individuals and collectives engaged in fieldwork. This is a significant event. Comrades who have received commendation and the field workers, represented by those comrades, in units affiliated to the academy of sciences, together with comrades engaging in fieldwork all year round on the fronts of geology, petroleum, agriculture, forestry, water conservancy and fishery, are respected by the people and become examples that everyone should learn from.

Field surveying work is the foundation for resources development, economic area division, engineering works construction and national land improvement. The field workers who are commended by the academy of sciences cherish grand aspirations and conscientiously work in remote areas. They vigorously right in difficult circumstances without flinching and bravely undergo all sorts of hardships. They incarnate a high sense of responsibility derived from their deep love of the motherland, strong devotion to the cause of modernization, and a noble communist spirit of sacrificing one's personal interests for the sake of others and the public interest. All scientists and technicians, and particularly young students who will soon go to their work posts, should learn from their spirit and aspirations.

People can score great successes in remote areas and in difficult circumstances. Compared with some big cities and some trades where working and living conditions are relatively better, those remote areas and trades with hard working conditions more urgently need talented people. There also exists a broader arena for people to display their abilities and talents. Among the field workers being commended this time, some are pioneers in such branches of learning as desert and glacier studies; many are people who have made achievements in scientific research; some have made major achievements which have international influence and have thus become authorities in their respective branches of learning. When engaging in fieldwork, people may frequently meet with hardships and even dangers. At the same time, they also have good opportunities to reveal the secrets of nature and make major contributions to the nation's construction. Therefore, they often taste pleasure among hardship or even forget hardships because of pleasure. Only people with a devoted spirit can feel and enjoy this noble pleasure.

Leaderships at all levels should show special concern for field workers on all fronts. These comrades often work in bitter cold and intense heat and have to eat in the wind and sleep in the dew. Some of them even have to work in the oxygen- and water-deficient areas. Because they have to endure numerous difficulties in work and in their lives, leading departments must offer them help. With regard to policies, field workers and those working in border areas should enjoy more encouragements mentally and materially. Problems concerning their promotion, treatment, medical service and facilities should be solved according to this principle. This will help encourage more people to work in remote areas and in trades with hard working and living conditions, and will be favorable to the smooth development of our nation's socialist construction cause.

CSO: 4008/84

NATIONAL DEVELOPMENTS

GUAN GUANGFU ADDRESSES SCIENCE MEETING

HK040617 Wuhan Hubei Provincial Service in Mandarin 1100 GMT 3 Apr 83

[Summary] A meeting to cite advanced groups and individuals in the learned societies, associations and research institutes directly under the provincial scientific association was held in Wuchang from 31 March to 2 April. Secretary of the provincial CPC Committee Guan Guangfu and Deputy Secretary Qian Yunlu had a talk with experts and scientific and technical workers attending the meeting--studying how to make scientific and technical work serve economic construction and calling upon the masses of scientific and technical workers to step up efforts to contribute toward modernization and toward putting Hubei in the national front ranks of modernization. Vice Governor Liang Shufen attended the award-giving ceremony. In his speech, Comrade Guan Guangfu affirmed the contributions made by the learned societies, associations and research institutes directly under the provincial scientific association toward creating a new situation in our province's scientific and technical work. He spoke highly of the lofty spirit of (Zhang Wencai), an expert in optics who has fought ceaselessly to rejuvenate China, and others. "He called on party organizations at various levels, all areas, all departments and all scientific and technical organizations to further do a good job of discovering and using talented people, widely and penetratingly popularizing their deeds, overcoming the biased idea of underrating science and technology and looking down upon intellectuals, and promoting the healthy practice of respecting knowledge and intellectuals. They must realistically get several things done well and create conditions for scientific and technical personnels' stepped-up efforts in making their contributions:

"1. We must continue our efforts to properly solve the problem of specialized cadres learning what is not of practical use to them and using skills in which they are not well trained.

"2. We must do a good job of enriching intellectuals' knowledge and holding specialized continuation classes for them.

"3. We must provide ambitious backbone middle-aged scientific and technical personnel with assistants--personnel with great potential for achievement.

"4. We must study some ways to solve the problems concerning those intellectuals who are getting low pay and living a hard life and whose living standard is even lower than that of local general workers.

"5. We must strive to solve within a relatively short period of time the housing problem for those intellectuals and especially backbone young and middle-aged specialized workers who have no housing, or who live in cramped living quarters.

"6. We must solve in a planned and systematic manner the problem concerning those intellectuals at and above the levels of engineers and lecturers, who have long lived separately from their spouses.

"7. We must restore and establish the system that provides a regular medical checkup for intellectuals at middle and high levels, creating relatively good medical and hygienic conditions for them.

"8. We must take measures to improve the living standard of those scientific and technical personnel who work at the forefront of production under relatively tough conditions and especially those who work in the countryside.

"9. We must energetically support mass scientific organizations, assuring them of protection organizationally, backing them economically and helping them politically.

"10. Party committees at all levels, governments at all levels and scientific committees at all levels and publicity, cultural and educational, public health and other departments in the province, prefectures and counties must constantly review the policy on science and technology and the problem of creating proper conditions for intellectuals, and organize forces for proper action."

(Zhang Guanghao), vice chairman of the provincial scientific association, gave a work report at the meeting which called for learning from Jiang Zhuying and Luo Tianfu, striving to be promoters of reform and stepping up efforts to contribute toward modernization.

At the suggestion of (Zhang Wencai), and other representatives, a proposal was put forth through the meeting to the masses of scientific and technical workers of the province to launch in the scientific and technical fields a labor emulation campaign to judge who has a high ideological consciousness and a good moral standard as a scientist, who has produced more scientific results and economic results, and who shows greater enthusiasm and makes greater contributions.

Over 300 people, including (Li Guoping), (Gao Xiangying), (Fang Jun), (Zhang Wencai), (Jiu Fadu), (Zhao Zitian), (Wang Ronghai), (Ju Zihui), (Luo Ming), (Mi Jiafan), (Ge Jin), (Wu Guang), (Zhang Guanghao) and other vice chairmen of the provincial scientific association, and representatives of advanced groups and individuals of various learned societies, associations and research institutes, attended the meeting.

CSO: 4008/84

NATIONAL DEVELOPMENTS

BRIGADE'S APPROACH TO SCIENCE PRAISED

HK170619 Beijing RENMIN RIBAO in Chinese 15 Mar 83 p 1

[Commentator's article: "After the Peasants Have Broadened Their Vision"]

[Text] Dongshuangdang Production Brigade in Jinhai County, Tianjin, invites agricultural experts and scientific and technical personnel to give lectures and sends peasants to study at agricultural colleges. This is an effective move for bringing into play the initiative of the peasants in learning science and technology and the initiative of scientific and technical personnel in imparting science and technology and for leading agriculture toward the road of modernization. It is also a vigorous measure for speeding up the development of agricultural science and technology.

Peasants are pragmatists. Science and technology are the scientific summation of people's practice. As soon as science and technology are integrated with the production and practice of the peasants, they will bring about new productive forces, broaden the vision of the peasants and thus enable the peasants to soberly see the future of agriculture and their long-term interests, to make long-term planning in production and to integrate the four modernizations of the state with their objective in struggle.

At present, the scientific and cultural knowledge of the peasants and their receptive capabilities are still not high enough. They expect to learn more about commonly applied scientific and technical knowledge. Their demands for scientific and technical theories are still not so urgent as their demands for commonly applied scientific and technological knowledge. This makes it necessary for us to proceed from realities and correctly handle the relationship between popularization and the raising of standards in the course of spreading science and technology. Efforts should be made to enable the peasants to frequently see advantages, their confidence should be strengthened in learning and applying science and the peasants should be gradually lead to devote more energy on the long-term construction of production.

Judging from a long-term point of view, in achieving agricultural modernization, it is necessary to form a massive contingent of agricultural scientific and technical personnel. This contingent should be composed of two forces: 1) Experts and scientific and technical personnel who are especially engaged in agricultural scientific research and students trained in colleges and universi-

ties; and 2) those trained from among the broad masses of peasants. In order to effectively organize these two forces, it is necessary to adopt various flexible policies and methods ideologically, materially and organizationally. For example, we should encourage experts and scientific and technical personnel who are especially engaged in agricultural scientific and research work to go to the rural areas and agricultural production units can sign technical contracts with scientific research departments or scientific and technical personnel.

In the vast rural areas, a great upsurge in learning and applying science is in the making. Those cadres who are used to pressing the peasants to sow and reap, who do not have scientific and technical knowledge and who lack foresight and vision cannot adapt themselves to the needs of the times. The development of modern agriculture makes it necessary for us to have foresight in our work and to be good at applying science and technology. If the broad section of rural cadres can have both foresight and scientific minds like the party branch of Dongshuangtang Production Brigade, there will surely be a new leap in the development of our agriculture.

CSO: 4008/82

NATIONAL DEVELOPMENTS

CHEN WEIDA VISITS SCIENTIFIC, TECHNICAL MEETING

SK310948 Tianjin City Service in Mandarin 0030 GMT 31 Mar 83

[Text] On the morning of 30 March, at the municipal exhibition hall, responsible comrades of the municipal CPC committee and government, including Chen Weida, Wu Zhen, (Han Shaowen) and Li Zhongyuan, visited representatives from 16 provinces and municipalities--including Shanghai, Beijing, Zhejiang and Shanxi--who participated in the experience-exchange meeting on science and technology, and extended thanks to these visitors who, despite the long distance they had to travel, offered advanced technical findings to our municipality.

Comrade Chen Weida said: [Words indistinct] production advances in the course of practice. The development of production promotes the development of science and technology. The development of science and technology promotes production. The development of science and technology enjoys the support of the people and the state under the socialist system.

Departments and units may cooperate and exchange experiences with one another. At present, scientific research units of colleges and universities and production units are increasingly interrelated and have more chances to exchange opinion with one another. This embodies the superiority of the socialist system.

Comrade Chen Weida stressed: In the past few years, due to the influence of the leftist ideology, some of our comrades paid little attention to science, technology, knowledge, universities and scientific research units, which were places where intellectuals often gathered. This is a mistaken notion.

Efforts should be made to educate our cadres to respect science, technology and knowledge.

Comrade Chen Weida and others also visited the experience-exchange meeting on science and technology. While viewing the scientific and technical findings of colleges and universities of our municipality, Comrade Chen Weida said: All institutions of higher learning should further emancipate their minds to tap potential and take various steps to enroll more students so as to educate more talented persons and make more achievements.

They praised the scientific and technical findings of other provinces and municipalities. Comrade Chen Weida said: From now on, we should be in close contact and continue to exchange experiences with one another to make up each other's deficiencies. Comrades in Tianjin should learn from other parts of the country.

CSO: 4008/77

NATIONAL DEVELOPMENTS

LIU JIE VISITS SCIENTIFIC POPULARIZATION FAIR

HK300731 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 29 Mar 83

[Excerpts] According to reports by ZHENGZHOU WANBAO, on the morning of 27 March, the weather was extremely fine and the streets of (Zuchi) town on the outskirts of Zhengzhou were crowded with people. Over 10,000 peasants had come to a scientific popularization fair. This fair was held by the city Scientific and Technological Association together with other departments concerned. The same fair had been held in succession in (Xiacheng) and (Xifei) 2 days before. On the early morning of 27 March, some 130 junior and senior scientific and technological personnel from 35 units including the provincial Agricultural Research Institution, the Henan Agricultural College, city Construction Committee, city Economic Committee, public health work departments and the Xinhua Bookstore arrived. They set up 12 advisory and service points to explain face-to-face to peasants questions concerning scientific farming, diversified management, medicine and public health.

In the morning, provincial and city leaders including Liu Jie, Liu Zhengwei, Yu Mingtao, Li Baoguang, Zhao Wenfu, Sun Huasan, (Han Huilan), (Zhao Lida) and (Yu Min) and responsible members of the provincial and city Scientific and Technological Association, the suburbs and departments concerned also came to the fair.

During his visit, Comrade Liu Jie listened to reports by responsible members of the Zhengzhou City Scientific and Technological Association and said: The rural situation is developing very fast. Our scientific popularization work must catch up with the development as quickly as possible in order to meet the peasants' urgent need for science and technology. Scientific and technological popularization should be specialized, regularized and carried out with a network of centers. Modern equipment should be used in scientific publicity, such as slides, audio and video tapes and so on. We must make great efforts to speedily popularize scientific and technology [work] in the rural areas.

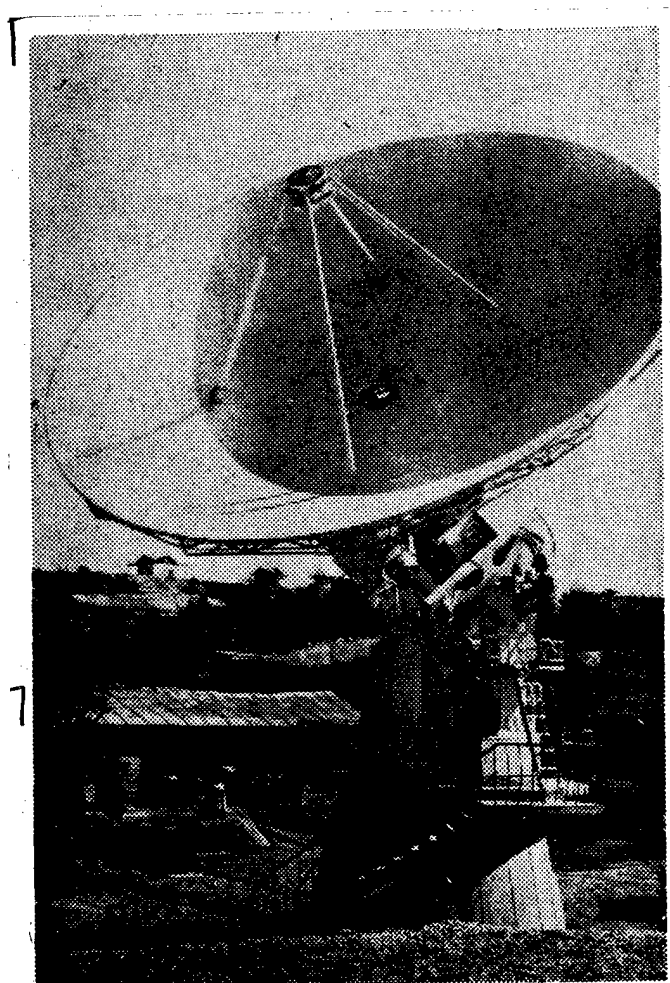
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APPLIED SCIENCES

NATION COMPLETES INSTALLATION OF ITS LARGEST RADIO TELESCOPE

Beijing RENMIN RIBAO in Chinese 19 Mar 83 p 1

[Photograph and caption]



The Yunnan Observatory and the Guizhou State Hongqi Machinery Plant have jointly developed a 10-meter radio telescope antenna. The device was installed on 12 March. This antenna will be used chiefly for space and solar radiation observation and research. The radio telescope antenna has the largest diameter of any similar device in China and is the most precise.

APPLIED SCIENCES

NEWS BRIEFS ON NUMERICAL CONTROL DEVELOPMENTS IN CHINA

Zhuzhou SHUKING JISHU TONXUN COMMUNICATION OF NUMERICAL CONTROL TECHNIQUE
in Chinese No 1, 1983 p 13

[Article: "News Briefs on Numerical Control Developments"]

[Text]--Developed by the Computer Science Department of Nanjing University for Chinese-made DJS-130 minicomputers, the DBS/130 data base system recently passed an evaluation test. It is a general-purpose data base system suitable for financial management, inventory control, school administration and information retrieval.

-Changzhou Electronic Instruments Plant recently developed the CDY-818 Chinese character output device. It is a computer peripheral which has a large storage capacity for Chinese characters. English words, Japanese kana, Latin and all kinds of tubulating symbols; it can print 400 Chinese characters per second.

--A microcomputer program control system was developed by the Mechanical Engineering Research Institute of Huazhong [Central China] Engineering College, and has been working quite satisfactorily since it passed an evaluation test in January 1982. The system is composed of M6800DII single board processor and has the following characteristics: the system hardware design employs multiplex input interface circuits with relatively large numbers of I/O points suitable for controlling mechanical equipment with sequential movements; the system can be used for such machine-tool auxiliary control functions as selecting tools, changing tools, regulating speeds, and selecting work tables, thus meeting the requirements of the THK-6370 automatic tool-converting numerical-controlled horizontal work-center type machine tool. It can also function as a work division switch control, thus maintaining constant correspondence between work table count and work table position. The system has a certain degree of diagnostic power and can display the status of vital movements and control data; it employs both hardware and software techniques, and has excellent anti-interference capability.

--The Radio Electronics Department of Qinghua University has successfully developed the TS-79 mini-size digital image processing system. The system was built on the DJS-130 (or 140) computer configured with some image-processing hardware. Its video timing main frequency is 10 MHz, and it has a field period of 19.968 ms with 312 lines per field. Its image storage

capacity is 256 x 256 (pi x el) with 8 bits per picture element. It has a capacity for 256 x 256 B/W image display element arrays, and 256 picture shades; its false color display has the following features: 64 colors, 4 classes, 4-scale gradation window, 8/16 density partition, 256 x 256 picture digitized resolution, 8 bits quantization precision, quantization conversion time 6 nanoseconds, digitization speed of 64 manoseconds per picture element, 10 seconds per frame. The data switching rate between the system and computer is characterized as follows: storage data read-out time 0.6 nanoseconds per picture element, data transmission input time 1.5 nanoseconds per picture element, output rate 2 nanoseconds per picture element. The processing system is programmed in FORTRAN language.

--The microcomputer programmed control system developed by the Mechanical Engineering Research Institute of Huazhong [Central China] Engineering College passed an evaluation test last year, and has since been working quite satisfactorily. The system employs an 8-bit MEK6800D_{II} microprocessor produced by the U.S. Motorola Company; its system hardware design employ multiplex input interface circuits with 64 input points and 64 output points. The system is suitable for controlling mechanical equipment with sequential movements, such as combined machine tools, automatic transfer machine, light spinning machines, forging press machinery, etc.

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CSO: 4008/68

APPLIED SCIENCES

SHANDONG: INVESTIGATION REPORT ON TECHNICAL TRANSFORMATION

SK250928 Jian DAZHONG RIBAO in Chinese 28 Feb 83 pp 1, 2

[Investigation report by Jiang Chunyun [5637 2504 0061], Zhang Guowei [1728 0948 3555], and Gong Zhifeng [1362 1807 1496] on technical transformation conducted at 13 industrial enterprises in Jinan]

[Excerpts] Recently, we conducted investigations at 13 industrial enterprises, including the Jinan No 1 Cotton Mill, the Jinan Towel Mill, the Jinan No 1 Machine Tool Plant and the Jinan Motor Car Spare-Parts Plant, on the question of how industrial enterprises are improving their technology. Practice shows that to quadruple industrial output value, to modernize enterprises and to yield the best economic results, technical transformation is necessary. Since the Third Plenary Session of the 11th Party Central Committee, in the course of implementing the principle of readjustment, these enterprises have concentrated their efforts on updating equipment and applying new techniques, which have begun to yield remarkable results. Over the past 3 years, these 13 enterprises have engaged in a total of 83 technical transformation projects, rebuilt outdated plant buildings with a total floor space of over 50,000 square meters and updated and innovated 1,491 sets of equipment, of which 74 sets have been imported from foreign countries, thus effectively improving production and technical levels. Total industrial output value has increased from 188 million yuan to 289 million yuan, an average annual increase of 15.3 percent. Total profits increased from 29.33 million yuan to 39.42 million yuan, averaging an annual rise of 10.4 percent. After paying back 8.7 million yuan of loans in these 3 years, the taxes and profits handed over to the state have increased from 32.31 million yuan to 37.89 million yuan, an average annual increase of 5.4 percent.

These enterprises' experiences in carrying out technical transformation to improve technology can be mainly summed up as follows:

1. Give priority to technical transformation in the course of promoting enterprises' production. In the past few years, owing to the vigorous setting aright of things which had been thrown into disorder and the active elimination of the influence of "leftist" ideas, these 13 enterprises have gained a full understanding of the damage engendered by the practices of laying emphasis on capital construction while overlooking production and placing of stress on output value while neglecting technology. These enterprises have

conscientiously shifted their work focus from the expansion of production sites, manpower and material resources to improvement of technical capabilities, product quality and work efficiency. They have also strived to catch up with advanced production levels instead of only improving their production capacities to a general level. They have paid attention to improving technology instead of concentrating on output value. As a result, they have changed the past situation, in which their technology was obsolete, their products were higher in price but poor in quality and their economic results were poor, and they have gained the initiative in most fields of work. Of these 13 enterprises, seven have improved their technology to a still higher level and six have regained the initiative in the spheres of production and marketing and created a new situation. However, the result of this investigation shows that, at present, quite a few enterprises still lack understanding of the importance of technical transformation, their attention and determination in this regard is weak and they are hesitant in carrying out technical transformation. To make real progress in technology, continued efforts should be made to further eliminate the influence of "leftist" ideas and to effect a great turn in guiding ideology.

2. Define some targets for technical transformation centering on the improvement of economic results and on the needs of the market. In the course of carrying out technical transformation, these 13 enterprises have truly realized that success or failure in technical transformation and in the prospects of enterprises hinges on the practices of making arrangements for production in line with the needs of the market and striving to update equipment and techniques instead of developing production only for itself and carrying out enterprise innovation in a blind manner. Therefore, they have concentrated on market investigation and forecasting and on the collection of market information in order to keep abreast of new developments in markets in their own localities and other provinces and at home and abroad. Meanwhile, these enterprises have defined their targets, priorities, steps and measures for technical transformation in accordance with new developments in the markets.

3. Integrate the importing of new technologies with the practices of applying available domestic results of scientific and technical research projects and exploiting favorable factors from our traditional skills. Self-reliance should form the primary basis for reform of out-dated enterprises and technology. On the one hand, traditional technology, equipment and skills should be reformed and, on the other hand, some key equipment and new technology and materials should be imported to promote the transformation of technology. Of these 13 enterprises, 7 have imported technology, with good results. They have used fewer investments, but yielded quicker economic results.

4. Give full play to the role of scientific and technical personnel. These 13 enterprises have a total of 554 technicians, accounting for merely 2.5 percent of the total workers and staff members, but, these technicians are the backbone in technical transformation. It is enough that we give full play to the role of existing technical personnel. These 13 enterprises have done a good job in implementing the policy towards intellectuals and in promoting technical personnel to important positions. Over the past 3 years, they have

promoted a total of 157 engineers to leading posts at or above middle levels, accounting for 19.7 percent of the total existing cadres at or above the middle-level. Of these 157 engineers, 19 have been put in positions of plant director or higher, accounting for 20 percent of the total existing leading cadres at the plant level. Their experiences are: to give full play to the role of scientific and technical personnel, the most important thing is to correct ideology and understanding, to overcome the prejudice against intellectuals and the discrimination against knowledge and to really have confidence in and rely on technical personnel and entrust them with important tasks so as to give them positions, powers and duties. In addition, we should be concerned with technical personnel politically and give preferential treatment to their living conditions.

From the results of this investigation, we notice that at present, in the work of giving play to the role of scientific and technical personnel, quite a few comrades are still affected by "leftist" ideas and lack understanding of the importance of knowledge and intellectuals, leading to some problems in employing scientific and technical personnel and in giving special care to their living conditions.

5. Open classes for workers and staff members to enhance their understanding of general technology. Success or failure in turning a backward industry into an advanced one hinges on improving the scientific and general knowledge levels of workers and staff members and strengthening the development of intellectual abilities. The low cultural and technical knowledge levels of workers and staff members have seriously hampered the development of technical transformation and technical progress. In these 13 enterprises, there are 18,788 workers and staff members, of which only 2.5 percent have received a university education, 1.7 percent have received secondary vocational school education, 37.8 percent have graduated from senior middle schools and 58 percent have only attended junior middle schools or primary schools. Therefore, conducting training on cultural and technical knowledge among workers and staff members has become a pressing matter.

In this investigation, some comrades from enterprises of Jinan City have put forward some suggestions on improving technical levels. These suggestions mainly are to strengthen cooperation among scientific research units, universities, colleges, plants and enterprises, to advocate the practice of becoming competent through self-study and to work out, as soon as possible, specific policies and methods for encouraging plants and enterprises to make progress in technology.

CSO: 4008/86

APPLIED SCIENCES

NEW PUBLICATION WILL UPDATE HISTORICAL DATA ON CHINA'S EARTHQUAKES

HK090845 Beijing RENMIN RIBAO in Chinese 4 Mar 83 p 5

[Article by Li Shu [7812 3412]: "Preface to 'Collected Historical Data on China's Earthquakes'"]

[Text] Editor's note: With a length of more than 3 million characters, "collected historical data on China's earthquakes" will be published in five separate volumes by the scientific publishing house sometime this year. The collection, compiling and checking of the data in this book, which involve difficult and complicated work, have been conducted in a careful and exact manner. The preface to this book is reprinted as follows. [End editor's note]

"Collected historical data on China's earthquakes" is an expanded revision of "chronology of data on China's earthquakes" published in 1956.

Earthquakes are a kind of natural disaster which frequently happen in our world. As long back as 3,000 years ago, our ancestors began to pay attention to the recording of earthquake data. As this work has been carried on as a tradition through the ages, an exceptionally rich collection of historical data on earthquakes has been preserved. The late famous geologist Li Siguang, who was the former vice president of the China Academy of Sciences and chairman of the seismological committee, proposed in 1954 a project of sorting out and compiling the historical data on China's earthquakes to provide reference for selection of sites of plants and mines, in response to the request of Soviet specialists who were then engaged in economic construction in China. Approved by the seismological committee after discussion, this project was entrusted to historians Fan Wenlan and Jin Yufu. In collaboration with the geophysics research institute and other organizations concerned, the staff of the research institute of modern history under the China Academy of Sciences (the number 3 institute of the former research institute of history) completed the compilation of "chronology of data on China's earthquakes" and published the works in 1956.

The publication of the "Chronology of Date," which provided for the first time rich materials for studies in the history of earthquakes, extensively drew attention of the scientific circles at home and abroad. While giving a relatively high appraisal to this book, scientists pointed out in their book reviews some shortcomings in compilation. Carefully checking part of the materials, Mr Mitsuo Yoshimatsu [1987 2646 0342 7160] of Japan contributed many

valuable opinions on the "Chronology of Data." During more than 20 years since the publication of the "Chronology of Data," in continuing their studies in the field, our seismologists and historians also found that the materials collected in the "Chronology of Data" were incomplete and needed to be supplemented. Moreover, the compilation of the historical data according to the outdated administrative division of the times which could cause a lot of inconvenience should also be modified. The Tangshan earthquake in July 1976 diverted people's attention to the work of seismic forecasting. Our scientific research personnel had to remain idle at that time as the "gang of four" was in power. It was then unanimously agreed that they could achieve great success in the recompilation of these data if they were organized to work under the guidance of specialists. The project was later jointly proposed by the China Academy of Social Sciences, the China Academy of Sciences and the state seismological bureau. Specialists and the responsible persons of units concerned were invited to form a committee for compilation of historical data of China's earthquakes, and seismologists and historians were organized to carry out a large-scale collection and compilation of historical seismic data. A general editorial office was set up under the compilation committee to undertake the task, with Xie Yushou [6200 3022 1108], research fellow of the research institute of geophysics under the state seismological bureau and Cai Meibiao [5591 5019 1753], research fellow of the research institute of modern history under the China Academy of Social Sciences, as chief editors, and with Comrade Wu Chengyi [0702 2110 3015] in charge of organizational work. The project lasted for 5 years, being started in 1978 and completed in 1982.

The work of material collecting was shared out among the general editorial office, and the historical seismic data collecting groups and various collaborating units of all provinces, municipalities and autonomous regions. The comrades of the general editorial office concentrated their efforts on sorting out and studying various basic historical documents including official histories and imperial records of all dynasties and so on, while the comrades at the provincial and municipal level were responsible for checking local records of all dynasties, including some rare books and handwritten copies which the "chronological data" failed to refer to. Besides, local units also supplied some specially reserved documents and some real proofs including inscriptions on stone tablest, prefaces and proscripts and so on, which were discovered in various areas. The comrades of the China number 1 archives office supplied a large number of well sorted archives on earthquakes in the Qing Dynasty and a selection of useful man language archives. The comrades of the China number 2 archives office provided a great number of archives covering the period of the Republic of China. Xizang Autonomous region organized considerable manpower to systematically sort out Xizang historical archives of various ages which has never been used before, thus providing a reliable basis for studies of the seismic activity in the region. Seismologists of various provinces, municipalities and autonomous regions also provided the observation data collected by various seismic stations and a large amount of macroscopic data accumulated over years. It can be said that "collected historical data on China's earthquakes" possesses a much richer collection of materials than that of the "Chronology of Data." Such an ample collection of data needs to be selected after analysis. The editors in charge of each volume of this book did a great job in carefully selecting materials from different origins, and

applied textual criticism on contradictory and questionable documents. Thanks to their efforts, the reliability and accuracy of the materials have been enhanced. Furthermore, in view of the difficulty in reading up the "Chronology of Data," the materials in the new book were compiled in straight chronological order; the contemporary name of a place is given whenever its old name is mentioned, and an index of the contemporary names of places are attached as appendix. These changes in the arrangement of the book content will certainly make the use of this book more convenient.

When undertaking the project, the committee for the compilation of historical data of China's earthquakes proposed that the historical seismic data collecting groups of various provinces, municipalities and autonomous regions should also compile in passing their own collected historical data of earthquakes. Those materials which were not selected into the book might be covered in details in the local data collection of each area. So far most provinces, municipalities and autonomous regions which suffer relatively frequently from earthquakes have completed and published their own collection of data. Researchers can consult these local collections of data when reading this book.

The compilation of this book was jointly accomplished by the comrades of general editorial office of the compilation committee and various collaborating units. Volumes I, II and III which cover the period from remote antiquity to the Qing Dynasty were mainly completed by the comrades of the Research Institute of Modern History under the China Academy of Social Sciences. Certain parts of these volumes involve the work by the comrades of the geophysics research institute under the state seismological bureau and other units. The compilation of Volume IV which covers the period of the Republic of China was undertaken by the comrades of the China number 2 historical archives office and the seismological bureau of Jiangsu Province. Seismologists from all parts of the country participated on invitation in the compilation of Volume V which deals with seismic data collected in the period from the founding of the PRC to the year 1980. Comrade Li Tianci [2621 1131 6337] of the Zijinshan observatory in Nanjing under the China Academy of Sciences was in charge of the conversion from the Chinese calendar to the Gregorian calendar in all volumes. Notes to names of historical place were revised by the comrades of the Research Institute of History and Geography of Fudan University.

The compilation of this book involves several fields of social sciences and natural sciences. Its success should be attributed to the joint efforts of various circles. The development of modern sciences requires social scientists to attach importance to the assimilation of new results and new methods brought about by natural scientific research, and natural scientists to pay attention to the application of new viewpoints and new materials of social scientific research. The compilation of this book can be regarded as a successful joint project accomplished by social scientists in close cooperation with natural scientists. However, as an enormous reference book which involves many disciplines, this book can hardly be completely free of mistakes in its selection of materials. We are looking forward to criticism by specialists so that our works can be further improved. In the preface to the "Chronology of Data," Comrade Zhu Kezhen said: "to climb up to the top of a mountain we start from its foot, to travel to a distant place we start from our present footing. This chronology of Dat will merely serve as a stepping-stone for further elaboration in the field." Similarly, our present works can be regarded as

another step forward on the road opened up by our scientists of the older generation. We believe that our country's scientists will fully utilize these materials to make new contributions to and reach a higher level in the studies in seismology and seismic history.

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LIFE SCIENCES

MODERNIZATION OF NATION'S MEDICAL SCIENCE VIEWED

Beijing RED FLAG in Chinese No 4, 16 Feb 83 pp 29-32

[Article by Huang Jiasi [7806 1367 7475] and Wu Jieping [0702 7132 1627]]

[Text] Medical science arose and developed out of man's fight against disease and its long-term aim is to improve the standards of health of mankind, prevent and cure illness, preserve the labor force and lengthen man's life. Medical science in different countries shares some common features but differences in such factors as economic levels, cultural and scientific foundations and social systems mean that in each country medical science also has its own special characteristics. Naturally since China is at present in the historical period of opening up a new vista in socialist modernization, so medical science finds itself facing questions of how to handle modernization construction. A discussion of these questions must be integrated with China's present actual condition and we must emphasize and take good look at our own experiences and general developmental rules of medical science since the founding of the PRC.

A Look Back at the Development of China's Medical Science

China is a country with a civilization which stretches back several thousand years. Chinese medicine is an important integral part of our glorious culture. Way back in ancient times the Chinese people began to assimilate knowledge and experience in curing and preventing sickness and disease. From the very earliest medical books "Huang Di Nei Jing" to Zhang Zhongjing's Han Dynasty "Shang Han Za Bing Lun" and the multitude of later medical books, Chinese medicine not only amassed a wealth of experiences but it also created a theoretical system. In the Ming Dynasty, Li Shizhen's enormous 52 volume tome "Ben Cao Gang Mu," which was read both throughout China and abroad, became established as a veritable pearl in the history of world medical science. Chinese medicine was extremely important in the increasing prosperity of the peoples of China and its theoretical successes far outweighed those of traditional medicine in other countries. Take for example the principles such as "diagnosis and treatment based on overall analysis of the illness and the patient's condition," "different cures for like illnesses" and "like cures for different illnesses" all of which illustrate how skilled Chinese scholars were at taking rich, practical experiences and elevating them to a high level of rational knowledge.

Western medicine began and developed from its foundations in ancient Greece. It began with Hippocrates' systematic research and from this time right up until the Renaissance emphasis on experimental research made Western medicine more and more scientific. Later, achievements in the natural sciences during the 19th century allowed enormous development for Western medicine. Dissection research, probing of physiological functions, pathogenic research, the discovery of microbes, cellular pathology, the study of pharmaceuticals and pharmacology were all gradually set up as basic branches of medicine and through constant experimentation and research they widened and increased in depth so that both clinical medicine and preventive medicine developed very fast. As one composite branch of the applied sciences, medicine became an overall theoretical and applied system. Around about the time of the opium wars, Western medicine spread into China and it had firm foundations in China as many as a hundred years before the founding of the PRC. Thus China found itself in the presence of both Western and Chinese medicine and as a result of historical conditions these two medical schools of thought were not only unable to develop in coordination but furthermore they created a situation of mutual rejection.

Since the founding of the PRC and under correct party guidance, the last 30 years of hard work has produced enormous successes for China's undertakings in health and hygiene, as well as success in medical scientific research. China has eradicated smallpox and has basically brought under control such infectious diseases as the plague, cholera, venereal disease, kala-azar, polio and so on as well as greatly reducing the occurrence of schistosomiasis, malaria, leprosy and encephalitis B. There has been considerable development in such areas of preventive medicine, clinical medicine, pharmaceuticals, antibiotics, biological products, medical equipment and so on. Work on extensive burn treatment, replantation of severed limbs and the remarkable results achieved as well as investigations and research into tumor epidemiology have all attracted international attention. There is absolutely no comparison between the standards of modern medical research and their achievements and the situation prior to liberation. Something particularly worth attention is the commencement of an integration and mutual absorption between Chinese and Western medicine. Acupuncture anesthesia has been very successful in clinical usage and this has advanced our research into the principles of acupuncture. The integration of Western and Chinese medicine has improved the cure rate of many illnesses and has enriched clinical treatment methods. The integration of Western and Chinese medicine has not only brought about good results in mending broken bones and curing acute abdominal diseases, it has also changed some traditional Western medical viewpoints. At the 1978 National Science Assembly, there were 335 awards made for achievements in medical science. In addition, over the last few years some achievements in medical science have earned national discovery awards. General improvements in standards of health in the population as well as increases in average life expectancy both help to illustrate the development in China's medical and hygiene undertakings.

The above basic outline of the development of Chinese medical science shows us the unique and independent path of development that medical science in

in China has taken. The basic situation today is as follows: There is already a basic foundation for Chinese medicine and hygiene work and the coexistence of Chinese and Western medicine possesses three main branches, namely Chinese medicine (including national minority medicines), Western medicine and integrated Western and Chinese medicine. The modernization of China's medical science must be based on this foundation, offsetting its weaknesses with its strong points and giving expression to its advantages.

The General Situation in Modern Medical Science

The growth of medical science depends to a very great extent on the growth of the organic sciences. The present growth of natural sciences and technological sciences and their infiltration into the organic sciences has meant that research into organic sciences has moved from qualitative to quantitative research and has reached the molecular and in some cases the quantum level. Growth in the organic sciences is today exerting an enormous influence on research in medical science. Research in medical science has now entered the molecular level and is now able to examine the principles of the occurrence and development of disease at much deeper levels and as a result develop specially effective methods of prevention and cure for certain diseases. For example, recent developments in genetic engineering technology have produced some important results in research into cancer and have shown the existence in human tumors of DNA formations which change normal cells into cancerous ones, now referred to as cancerous genes, and furthermore the only difference between these formations which have already undergone this change in cancerous cells and normal, healthy genes is a difference in the nucleoglucositic acid. This has given us important clues to the mystery of tumors. The infiltration of cellular biology, genetics and molecular biology into immunology have meant that the previously organizationally incompatible principles of genetics which formed the very key to organ transplantation have now been essentially clarified. Now many diseases and illnesses whose causes were previously unclear have been proved to be directly linked to immunity, thereby clearly pointing the direction for the treatment of these illnesses. There is now a very thorough understanding of the workings of bacteria, germs, viruses and parasites in relation to their host cells and this has provided a theoretical basis for improving preventive medicine. Some diseases are caused by chronic viruses and this was previously not understood, but once the cause of a disease is understood one has a concrete target for seeking a cure.

The increasing infiltration of the natural sciences and engineering technology in both theory and practice into medical science has from the engineering angle widened and increased research into human bodily structure, functions and internal bodily relations and thus solved many related problems within medical science. Research in this area has led to the production of artificial human organs. Electro-technology is becoming more and more widespread in diagnosis, curing, monitoring and prevention. The use of computers is now changing the entire face of medical science.

As medical science researches the very nature of life itself and launches into the microcosm, it is also developing at the same time into macroscopy. Research moves from the individual to the group to society. Knowledge of medical science has expanded from a simple biological point of view to encompass such scientific areas as psychology, sociology and anthropology. In the last 30 years there have been deep and widespread changes in medical scientific research and we may predict that in the future there will be enormous breakthroughs in areas of medical science and hygiene work that today pose insoluble problems.

Several Problems Concerning the Modernization of Medical Science in China

Premier Zhao Ziyang pointed out that work in science and technology should cater to the needs of economic construction and that scientists and technologists should throw themselves wholeheartedly into the glorious practice of socialist modernized construction. Today's problems are how, under this guiding ideology, we should activate the enthusiasm of medical workers, medical scientists and medical administrative and management personnel to break down old frameworks and steadfastly carry out a series of reforms thereby raising standards of hygiene work and medical science in China.

1. We must steadfastly implement the party's principles relating to hygiene work, using relatively high standards of science and technology to fulfill health protection duties. The successes in hygiene work during the last 30 years clearly prove the accuracy of China's principles relating to hygiene work. In the early days of the PRC medical hygiene workers were very few in number, organization was incomplete and lacking, disease was rife and health standards among the population were very low with a high death rate and low life expectancy. Thus the fact that we were able to overcome these difficulties and to change the whole face of hygiene throughout the country in such a short time and greatly improve health standards was due to the fact that we outlined and emphasized the principles that hygiene work should serve the people, that everyone should be mobilized to fight against disease and above all steadfastly practice prevention. Thus while scientific and technological standards were relatively low, as far as the medical protection that the entire population in China receives is concerned, it was in some ways more effective than that in scientifically and technologically advanced countries. Westerners, especially those working in medical science and hygiene have always been deeply impressed by this and have praised it profusely. In order to achieve greater successes in medical and hygiene work we must continue to uphold this principle and work hard to improve scientific and technological standards, strengthening education and training of medical and hygiene workers on every level and developing work in scientific research.

2. We must research prevention and cure of all diseases which seriously damage the health of the people and thereby preserve the labor force. In the last 30 years we have constantly emphasized research into pressing problems affecting the people's health, adapting as soon as possible all scientific results into effective tools to prevent and cure disease. Today we should continue to make these pressing problems which affect the health

of the people the prime task for medical scientific research, striving for great results. We should realize that while there have already been great achievements in the prevention and cure of infectious and parasitic diseases, this is not the case for acute and chronic infectious diseases. As life expectancy increases, arterial diseases, cancer and diseases of the respiratory system have become the main causes of death and thus we must increase research in these areas. As economic construction develops, if we do not investigate in minute detail prior to construction the dangers to the health of workers and citizens that can arise in the production process, then the aftereffects could be very serious. Environmental pollution is one such example. We must emphasize research work in these areas and integrate them with the actual situation in China in searching for effective solutions. Today there are very many pharmaceuticals, biological products, and much medical monitoring equipment and machinery used in the prevention and curing of disease and demand for these things is great, thus we must ensure an integration of research, production and utilization, constantly improving quality and making use of new technology. Relevant product types should be produced according to the needs of the various medical institutions in all urban and rural areas while final design and makeup of all products should guarantee quality. One important problem today is ensuring the quality of batch production products. Since research and production in these areas extends over a very wide area, the numbers of scientific fields, work units and workers which must participate are also great and thus we must stress overall planning and coordinated division of labor.

3. We must emphasize fundamental research at the same time as increasing applied research. In the early years of the PRC there was a much greater lack of medical scientific personnel than medical hygiene workers; one could count on one's fingers the number of work units which were able to start research work, and there were even only a very few hospitals carrying out clinical research work. As far as the principle of integrating propagation and improvement was concerned, this situation meant that in actual fact it was only propagation work that could be carried out as we lacked the means to carry out necessary improvement work. This situation was already well noted in 1956 when the first national scientific plans were drawn up and by the 1960's the situation had already changed, but the small amount of strength that we had just mustered was seriously damaged during the following 10 years of social chaos. At that time our fundamental theoretical research was actually branded as "divorced from reality," "divergent from the socialist direction" and so on and thus medical scientific research was wiped out. After the smashing of the "gang of four" and in particular after the 3d Plenary Session of the 11th CPC Central Committee, medical scientific research work was at last able to gradually recover and grow. The many kinds of cultural exchange with foreign countries in recent years have played a definite role in promoting and improving research work in China. Today there are a certain number of work units which already have the foundations for actively developing research work. In the future we must firmly implement the principle of integrated propagation and improvement, emphasizing research work and organizing a certain amount of our forces to carry out basic research. Medical science

is an applied science and thus most research is characteristically applied research, directly linked to the prevention and curing of disease, improvement of health standards and the protection of the labor force. But without basic research it is very difficult to achieve any outstanding achievements in applied research, thus it is vital that a certain amount of our forces be assigned basic research work. Basic research in medical research is in fact applied basic research and the vast majority of it does not represent an insurmountable barrier in front of practical work. At present the numbers of people and material resources that we are able to invest in research work are very few and for this reason we must work even harder to improve organizational and management work. Decentralization of work topics, lack of concentration of our forces, sluggish development and lack of necessary coordination as well as repetitive work with low standards are all still very common today. We must prioritize the drawing up of medium- and long-term development plans concentrating on several key topics.

4. We must carry on Chinese medicine and continue our work in integrating Chinese and Western medicine. The three-faceted structure of Chinese medicine, Western medicine and an integration of the two is a victory for China's principles concerning hygiene. As far as the integration of Chinese and Western medicine is concerned we have now gained only a few initial experiences and this facet of the whole is still very small today and it must continue to be developed and enlarged. Without Chinese medicine it would be impossible to continue to integrate Chinese and Western medicine and thus it is vital that we draw up plans for training more doctors of Chinese medicine and plans for passing on the science of Chinese medical science. It has already been proved that a good and effective way of encouraging the integration of Chinese and Western medicine is for Western medicine to learn from Chinese medicine and this should now be planned in an organized fashion. It is absolutely vital that students of most medical colleges do study in the basic principles of Chinese medicine (including practical field work) during their other studies. In this way every medical worker may gain a basic understanding of Chinese medicine and this will be of benefit in integrating Chinese and Western medicine during their practical work as well as providing them with a foundation for further study of Chinese medicine.

5. Increase research into family planning and eugenics. Family planning is a basic national policy in China and directly influences the realization of national economic plans and improvements in the people's living standards. Among the many areas of family planning work China does have some technical measures which occupy very advanced positions in international circles but despite this there are still many problems requiring our research. There are still many problems which need researching in order that we may offer more convenient and safer drugs and devices for contraception, birth and child-raising. Since China has such an enormous population there are often problems that need to be solved in disseminating some of our more effective technical measures.

6. We must train all kinds of medical personnel and solve questions of advanced or refresher courses for them. China is a vast country and the

needs of the rural and the urban areas are not necessarily the same. Thus one form of teaching system will not be able to satisfy the needs of every area. Thus we must on the basis of different needs, research how to train all kinds of medical personnel. In order to improve medical standards it is extremely important that we organize in a planned way refresher courses or advanced courses for medical personnel and try and ensure that research personnel in relevant scientific areas take part in medical scientific research work. The methods put forward by the hygiene department which include overall planning, graded responsibilities, variations suited to local conditions and emphasis on practical results will produce some experiences very soon and these must be publicized.

In order to open up a new vista in the modernization of China's medical science and in order to realize the above-outlined ideas, we must maintain a firm and courageous spirit of reform, and then carry out overall and systematic reform. This reform work will touch on every area of the system of medicine and hygiene as well as all relevant organizations and some regulation systems. It will also touch on every work unit, every medical technician and every member of management personnel. The key to all this reform is how to give full expression to the intellectuals and how to stimulate the enthusiasm of the intellectuals, especially young and middle-aged medical technicians. This means that our work should begin in such areas as the wages system, personnel matters, the system of personal responsibility and the system of bonuses and awards. We must implement the party's policies concerning intellectuals and change the phenomenon of insufficient expertise and wasted talent. During the overall reform process we must improve ideological teaching work for medical technicians and other workers in relevant jobs for only in this way can reform be carried out smoothly. At this minute a new vista for lively and flourishing modernized medical science is being born.

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LIFE SCIENCES

STAFF HOSPITAL INSTITUTES SYSTEM OF PERSONAL RESPONSIBILITY

JIANKANG BAO Report

Beijing RENMIN RIBAO in Chinese 5 Mar 83 p 3

[Text] A system of personal responsibility has been implemented in Shoudu Iron and Steel Company Staff Hospital to clarify job responsibilities, to carry out strict proficiency checks, and to reward diligence and punish laziness. This has obviously improved the quality of medical treatment and service. The Ministry of Public Health has confirmed and taken notice of this experience.

In the past, the management of Shoudu Iron and Steel Company Hospital was rather confused, the service attitude was bad, the hospitalization rate was high, and the discrepancy rate was also high. Last spring, the hospital began to implement a job responsibility system on the basis of a combination of responsibilities, authorities, and benefits. The method is to determine the responsibility in accordance with the job, the work points in accordance with the responsibility, and the reward in accordance with the job, the work points in accordance with the responsibility, and the reward in accordance with the workpoints. The concrete objectives are to raise the quality of the medical treatment, improve the service attitude, and strengthen the hospital management. These objectives were used as the foundation for formulating and implementing the job responsibility system to define the responsibility indices and proficiency check methods of each position from the hospital director, to department heads, physicians, and nurses. Awards are to be distributed every month after the proficiency in each position is strictly reviewed. The entire bonus amount for the month is to be withheld for those who have broken rules and regulations. According to the regulation, points are to be deducted from all who fall short of the proficiency standard. In this manner, the theory of even distribution of bonuses has been abolished and obvious results have been obtained. By the end of last year, while the number of cases in the outpatient clinic, in hospital wards, and in surgery had increased greatly, there was no treatment accident or serious error all year. The rate of repeated hospitalizations fell from 25 to 4.84 percent. There were not a single case of bedsores. Some outpatient clinics have begun to stay open 24 hours a day so that employees of all 3 shifts in the company can go for treatment or pick up medicine.

The experiences of the company in practicing the job responsibility system are mainly the following:

First, the indices are advanced and reasonable and the responsibility is borne by the individual. The job requirements for all positions are relatively high but it is possible to meet the requirements with some effort. The employee comment [about the requirements] is that "if you jump you can reach them, but no one can get on the beam like a cat." Under the condition of guaranteeing the quality of medical care, the company requires that problems of long waits to be registered, to get a diagnosis, pick up prescriptions, and for a short time with the doctor must be resolved by the hospitals. If these problems are not resolved, 2 percent of the bonuses of the hospital are to be deducted. The discipline of the pharmaceutical workers at the outpatient clinics was lax and some employees were busy while others had little to do. The indices were analyzed and quantitative responsibilities were assigned and strictly scrutinized. It took a little more than 1 month before the quality of medical service was improved to the extent that the three problems basically disappeared.

Second, it is necessary to strictly examine and carry out the "three absolutes" (absolute observance of rules and regulations; names of violators must absolutely be listed in newspapers and their bonuses for the month must be absolutely deducted). The hospital formulated strict check standards and use the three methods of checking every level, every shift, and administrative office to carry out and maintain monthly targeted checks, and not to engage in seeking good relations with all and sundry at the expense of principle.

Third, reward for diligence and penalty for laziness: Distribution is based upon work. The system of personal responsibility and strict checking of violations changed the past practice of "no distinction for good or bad and everyone is entitled to a bonus" and eliminated the phenomenon of "eating from the same big pot." Bonuses now truly have the function of rewarding diligence and punishing laziness.

Four, the work if ideology and politics is strengthened. The education in medical ethics and meritorious service competitions were launched to encourage the medical personnel to be conscientious as to their responsibilities and to offer to contribute more.

Commentary

Beijing RENMIN RIBAO in Chinese 5 Mar 83 p 3

[Text] The practice of a system of personal responsibility in Shoudu Iron and Steel Staff Hospital has changed the condition of "eating from the same big pot" in the matter of distributing bonuses. The experience is highly commendable. Some comrades believe that medical treatment and public health work is not the same as agricultural and industrial production work. It is questionable whether hospitals can practice the system of

personal responsibility to stop "eating from the same big pot." It is not easy to define the work quantitatively and to set quality indices. They worry that quantitative assessment of work will result in simple pursuit of economic gains and reduce the quality of medical service. It must be said that such worries are reasonable. The experience of Shoudu Iron and Steel Company Staff Hospital demonstrates, however, that although hospitals have characteristics different from those of productive enterprises, they should and can practice the system of personal responsibility and change the condition of eating out of the same big pot. For every job there is a clear-cut responsibility and all jobs have given quantitative and qualitative requirements. Medical work is not an exception. In the past, there were some regulations in the medical and public health system with respect to the responsibility of every position in hospital management, physicians, and nurses (although these regulations were less than perfect). It was because of the longstanding habit of eating out of the big pot that there was no link among responsibility, authority, and benefit. Good performance and bad performance were the same; working was the same as not working; therefore, some regulations of job responsibilities were not strictly enforced and others were turned into a piece of blank paper. Before the practice of the system of personal responsibility at the hospital, this was the condition. After the system was implemented, the condition changed. Not only were the past regulations enforced but they were gradually perfected. Some of those problems of medical service that had had no solution for a long time were also relatively satisfactorily resolved. The responsibilities in a hospital are, of course, different from those of productive enterprises and ways of measuring quantitatively and qualitatively the work of a medical staff member are more complicated. The hospital, therefore, is required to practice a system of job responsibility in accordance with its own special character. Some ways of doing things in productive enterprises cannot be forcibly adopted by a hospital. The conditions of all hospitals are not identical and the concrete ways of doing things may also vary. No matter what the condition may be, however, the method to be adopted should always be favorable for raising work efficiency and obtaining the goal of improving the quality of medical service. In the process of implementing the personal responsibility system, attention should be given to strengthening the work of political ideology. The education in socialist virtues must be pursued to prevent the emergence of a phenomenon of chasing after economic gains at the expense of quality medical care, adding to the burden of the patients.

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LIFE SCIENCES

PHARMACEUTICAL DEPUTY ON MEDICINE , EQUIPMENT

OW060518 Beijing XINHUA in English 1345 GMT 5 Apr 83

[Text] Beijing, 5 Apr (XINHUA)--China is able to produce 1,100 kinds of synthetic pharmaceuticals and about 3,000 pharmaceutical preparations, Jin Tongzhen, deputy director of the State Pharmaceutical Administration said here today.

In addition, he said, China is producing more than 3,000 kinds of patent traditional Chinese medicines and more than 5,000 kinds of medical apparatuses including nuclear, isotope and other irradiation devices and laser therapeutic devices.

He said that China has not only basically met its own needs for medicine but also export some to foreign countries. X-ray machines, various operational apparatuses and medical vehicles are exported to more than 70 countries and regions. The export volume of medicine and apparatuses in 1982 was more than 500 million U.S. dollars.

The Chinese pharmaceutical industry has developed rapidly since the founding of the People's Republic, the deputy director said, and China attaches much importance to the health of the people. The retail sales of pharmaceuticals in 1982 reached 9.3 billion yuan, an increase of 11.51 percent from the preceding year or 32 percent from 1978.

To make medicine and medical service available to the widest possible area, he said, the government has reduced the prices on eight occasions. For synthetic pharmaceuticals, the current average price is only about 18 percent of that in 1950, he said.

A complete medicine supply and marketing network has been set up in the whole country. The number of wholesale agencies above county level has come to 2,680 and the number of retails sales shops total more than 50,000.

In addition, numerous Chinese medicinal herb production centers have been set up to keep a constant flow of raw materials for making traditional Chinese medicines.

To support the country's family planning program, he said, the pharmaceutical departments have made great efforts to produce contraceptives and devices to be distributed free of charge.

Deputy Director Jin Tongzhen said that the pharmaceutical industry is both an economic and a welfare undertaking. He called for the production of more and effective medicines. The pharmaceutical factories should give first place importance to ensuring the people's health instead of seeking profit and output value, he said.

CSO: 4010/50

LIFE SCIENCES

CHANGCHANG MILITARY DEPOT MEDICAL AID TO PEOPLE DESCRIBED

Chengdu SICHUAN RIBAO in Chinese 27 Jan 83 p 1

[Article by Liu Jinyou [0491 6855 2589] and Wang Wenzhi [3769 2429 1807]]

[Text] The medical personnel of the hospitals, the sanitoriums, the public health teams (centers), and the soldiers' medical treatment offices of Chengdu Station of the Rear Service Department of the Chengdu Troop of the People's Liberation Army always remember the army's guiding principle of wholeheartedly serving the people. They enthusiastically work of the local masses of all nationalities to treat and prevent diseases. They have achieved new successes. According to incomplete statistics, the 57 medical units performed 79,800-plus patient treatments for peoples of Zang, Yi, Miao, and Hui nationalities residing in the vicinity of the military base and helped the local jurisdictions to train more than 320 medical personnel of all types, last year.

The medical units of this military base are located in the 50-plus counties of the 7 prefectures, including Yaan, Wenjiang, Leshan, Ganzi, and Liangshan. Since last year, the medical personnel have considered the work of relieving the people's suffering from disease as an expression of this most profound love for the people. On all holidays and days during the busiest farm season, they have organized medical teams to visit the residential streets, plants, mines, schools, and fields to treat diseases, deliver drugs, and prevent illness. They also disseminate birth control knowledge, dispense contraceptive paraphernalia, etc. The army Hospital No 45 in Daliangshan has, continuously for 13 years, dispatched medical teams to the villages of Aqi Commune to take care of patients of Han, Yi, and Hui Nationalities there. There have been 53 team-trips so far and a total of 56,700-plus patient treatments are to the credit of these teams. They have saved the lives of 230 critically ill patients, performed 1,200-plus surgical procedures of various types, and helped the local jurisdictions to train 45 classes of medical personnel.

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CSO: 4009/67

LIFE SCIENCES

BRIEFS

LARGEST BURN TREATMENT CENTER OPENS--China's largest and most modern burn treatment center--the Wuhan No 3 Hospital Burn and Plastic Surgery Center--began accepting patients on 18 March. The Wuhan No 3 Hospital uses herbs they prepare themselves to treat burns and the cure rate is high. From March 1970 to February 1980, they treated 2,086 patients; the mortality rate was only 3.98 percent. [Lanzhou GANSU RIBAO in Chinese 19 Mar 83 p 3]

PORTABLE OXYGEN RESPIRATOR--Whenever an oxygen supply device for medical use is mentioned, people instantly have the vision of an oxygen tank as large as a bomb. Then, there is also the oxygen bag shaped like a large pillow. Most recently, a certain research institute of the National Defense Science and Engineering Committee produced, through research, a small oxygen bottle that may be conveniently carried about by the patient. Although a pillow-like oxygen bag may also be easily carried, its oxygen storage capacity is very little, only a few to 10-plus minutes of use. The flow volume is small, only 5 liters every few minutes and it is necessary to squeeze the bag constantly to use the oxygen. The oxygen bottle made by that research institute is only the size of a wine bottle, but it can store enough oxygen for 1/2 hour to 1 hour's use. If it is used for health protection, it may last 3 hours. This type of oxygen bottles come in the three sizes: large, medium, and small. The large ones are only 90 mm in diameter and 330 mm in length. These bottles have the advantages of being small in volume, light in weight, conveniently portable and safe to use. It is an ideal equipment for medical service units and for the home to supply oxygen in case of health protection or emergency rescue. [Text] [Beijing RENMIN RIBAO in Chinese 10 Mar 83 p 3] [Article by Li Peicai [2621 1014 2088]] 6248

CSO: 4009/67

Armaments

AUTHOR: PENG Zhongji [1756 1813 0679]
ZHANG Gengsheng [1728 2577 3932]
SONG Huimin [1345 1979 2404]

ORG: None

TITLE: "The Synthesis and Properties of Some Polynitrocyclosulfamides and Polynitrocyclothione"

SOURCE: Beijing BINGGONG XUEBAO [ACTA ARMAMENTARII] in Chinese No 1, 1983
pp 9-14

TEXT OF ENGLISH ABSTRACT: In order to explore the possibility of utilizing polynitrosulfamides and polynitrothione as high explosives, three new sulfo-compounds, 2, 5-Dinitro-2, 5-diazacyclopentanesulfone (I), 2, 4, 4, 6-Tetranitro-2, 6-diazacyclohexanesulfone (II) and 2, 4, 6-Trinitro-2, 4, 6-triazacyclohexanethione (III), were synthesized and some of their properties and detonation parameters were determined. The experimental data show that they are explosives with high sensitivity. When SO_2 and $\text{C}=\text{S}$ groups take the place of the CH_2 group, as might be expected, the density of these compounds is raised but their detonation velocity is not increased at all and the thermal stability is decreased.

AUTHOR: YE Dongying [0673 2639 5391]
SUN Gengchen [1327 1649 6591]
GAO Juxian [7559 5281 6343]

ORG: None

TITLE: "The Experimental Study of the Critical Penetration Speed of the Shaped Charge Jet"

SOURCE: Beijing BINGGONG XUEBAO [ACTA ARMAMENTARII] in Chinese No 1, 1983
pp 51-59

TEXT OF ENGLISH ABSTRACT: During the penetration of the shaped charge jet into metal targets with different strengths, the critical penetration speed u_j^* is an important characteristic quantity. This shows the property of the target material against the jet penetration. This paper presents a simulating experimental program for approximate determination of u_j^* for metal targets and gives the u_j^* value for five kinds of steel with different strengths.

9717

CSO: 4009/114

Chemical Research

AUTHOR: None

ORG: High Polymer Teaching and Research Office, Department of Chemistry

TITLE: "Research to Make J_M High Efficiency Gel Chromatographic Filler a Success"

SOURCE: Changchun JILIN DAXUE ZIRAN KEXUE XUEBAO [ACTA SCIENTIARUM NATURALIUM UNIVERSITATIS JILINENSIS] in Chinese No 1, 20 Feb 83 p 80

ABSTRACT: High efficiency gel chromatography is a new technique of analysis and isolation developed in the past few years and the filler of the chromatographic column is the key of the technique. A polystyrene gel, made through copolymerization of phenylethylene [styrene monomer] and diethylene benzene, has been successfully produced by the Department of Chemistry of Jilin University, with a grain size of about 10 μ m. The physical and chemical properties of the polystyrene gel filler are stable. It may be used for grading polar and nonpolar polymers. The size of grains of the filler is evenly distributed to cause it to flow smoothly and the column capacity to be large. The solid flow ratio, v_i/v_0 , is above 1.0; in each 50 cm column, the pressure is within 30 kg. The molecular weight isolation range is within $3 \times 10^2 - 3 \times 10^6$. This filler was certified by the Ministry of Education on 7 Oct 82. Its differentiation capability was judged to be high, its test pressure small, and its linear isolation range broad. Judging from its column efficiency and degree of isolation, it has reached the level of similar products of foreign countries.

AUTHOR: None

ORG: Analytical Chemistry Teaching and Research Office, Department of Chemistry

TITLE: "Constant-pressure Helium Microwave Plasma Light Source Research a Success"

SOURCE: Changchun JILIN DAXUE ZIRAN KEXUE XUEBAO [ACTA SCIENTIARUM NATURALIUM UNIVERSITATIS JILINENSIS] in Chinese No 1, 20 Feb 83 p 98

ABSTRACT: Microwave plasma is a new light source used in emission spectrum analysis developed in the late 60's. To this day, helium microwave plasma spectroscopy is still the most sensitive and efficient method of micro and ultramicro determination of halogens, sulfur, phosphorus and other nonmetallic elements to a general minimum of $10^{-11} - 10^{-13}$ g. But, technical reasons cause constant-pressure helium microwave plasma to be very difficult to obtain and the vacuum method of obtaining low-pressure microwave plasma is very inconvenient to use. In 1976, Beenakker succeeded in obtaining microwave resonance chamber of constant-pressure helium microwave plasma and the condition began to improve. On the basis of learning the advanced experience of foreign countries, JIN Qinhan [6855 2953 3352] et al of the Analytical Chemistry Teaching and Research Office designed and made a new and improved TM010 resonance chamber, with which stable constant-pressure helium microwave plasma may be very easily obtained. This new microwave resonance chamber and a microwave generator, also made in China, may also be used to obtain constant-pressure argon microwave plasma.

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CSO: 4009/120

Construction Equipment

AUTHOR: LIN [2651]

ORG: None

TITLE: "Conference to Certify Results of Strategic Research on Drill Set of the 7655 Quarrying Machine"

SOURCE: Tianjin GONGCHENG JIXIE [CONSTRUCTION MACHINERY AND EQUIPMENT] in Chinese No 2, Feb 83 p 44

ABSTRACT: In response to the request of the supervising department, Shenyang Municipal Bureau of Machinery and Electric Power called a conference to certify the results of the strategic research on the drill set of the 7655 quarrying machine of Shenyang Pneumatic Tool Plant. Participants included 58 delegates representing 32 organizations of related colleges, factories, and mines. The delegates listened to summarizations of the research by the manufacturing plant and the testing mine and other reports of tests on the useful life of the drill set. They also visited the shop in which the drill is being produced. Following earnest and ample discussions, the delegates concluded that it is appropriate and successful to change to the 20Cr-MnMo material and hypercarburization work process and expressed satisfaction with the over 3,500 m useful life of the new drill set. They also praised the economic benefits and suggested that the drill set should be produced in batches.

AUTHOR: None

ORG: None

TITLE: "Hydraulic Crane Truck Produced Through Sino-Japanese Cooperation"

SOURCE: Tianjin GONGCHENG JIXIE [CONSTRUCTION MACHINERY AND EQUIPMENT] in Chinese No 2, Feb 83 p 50

ABSTRACT: A meeting to celebrate the production of the TG350M (35 t) and TG500E (50 t) hydraulic crane trucks through the cooperation of Beijing Municipal Construction Machinery Industry Company and the Duotianye [transliteration] Engineering Institute of Japan was solemnly convened in Beijing on 24 Dec 82. Representatives of the Japanese Embassy, the Duotianye Engineering Institute, and related association and delegates of China National Bureau of Materials, Machinery Import-Export Company, Ministry of Machine Industry, Beijing Municipal Bureau of Machines, etc. totaled more than 250 persons. Managers of the Beijing Municipal Construction Machinery Company and the Duotianye Engineering Institute delivered respective speeches before the ribbon-cutting ceremony. A reception was held at night in the Great Hall of the People. This successful cooperation of the 2 countries will definitely strengthen further technological exchange and contribute to the development of the hoist industry in China.

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CSO: 4009/119

END